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AMSAT NEWS SERVICE
ANS-073

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor@amsat.org

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* The AMSAT team is preparing for the 2010 Dayton Hamvention AMSAT *
*   Booth and activities. For the latest information go to: *
*   http://www.amsat.org/amsat-new/hamvention/2010/Dayton.php   *
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SB SAT @ AMSAT $ANS-073.01
ARISS to Receive A.I.R Boselli Award

AMSAT News Service Bulletin 073.01
>From AMSAT HQ SILVER SPRING, MD.
March 14, 2010
To All RADIO AMATEURS
BID: $ANS-073.01

This week's ARISS Status Report says the "Associazione Italiana Radio-ascolto" A.I.R. (Italian Radio Listeners Association) has awarded the Boselli prize 2010 to the Amateur Radio on the International Space Station (ARISS) program.

The A.I.R. Board found that ARISS meets every requirement for the award,

which is bestowed on "radio enthusiasts who promote the culture of radio,
showing the importance of radio communications to hundreds of young students in Italy, Europe and beyond, spreading the use of radio from the forefront of science in the vast outer space down to small classrooms."

The prize will be delivered on May 8 in Faenza during the A.I.R. annual meeting.

[ANS thanks Carol, KB3LKI for the above information]

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SB SAT @ AMSAT $ANS-073.02
Thule Greenland Activation on Satellites Beginning March 23

AMSAT News Service Bulletin 073.02
>From AMSAT HQ SILVER SPRING, MD.
March 14, 2010
To All RADIO AMATEURS
BID: $ANS-073.02

Reid, N0RC plans to operate on FM satellites from Thule, Greenland (Grid FQ56) for one month starting March 23. Reid describes his plans, "I will try to use satellites that uplink on VHF, because my transmissions on UHF would interfere with the BMEWS radar on base. I'll need to determine if BMEWS interferes with UHF downlink which will affect my satellite operation."

Reid's schedule will be as work/passes/weather permits. He plans to primarily operate the FM satellites due to equipment limitations. He plans some HF operating in between passes. Look for OX3RC on the satellites and on HF starting March 23.

Reid concludes, "I cannot give a specific time of operation because my primary mission is work, and my work schedule is dependent on weather." Since he will not have a set operating schedule Reid will send out an email right before I go on the air for that time period. Reid has setup an email list on Google Groups: http://groups.google.com/group/ox-thule-2010

[ANS thanks Reid, N0RC for the above information]

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SB SAT @ AMSAT $ANS-073.03
Viet Nam 3W6C DXpedition Plans Include Satellite Operation

AMSAT News Service Bulletin 073.03
>From AMSAT HQ SILVER SPRING, MD.
March 14, 2010
To All RADIO AMATEURS
BID: $ANS-073.03

The 3W6C-Team will activate Cï¿½n Cï¿½ Island (AS-185) near Viet Nam on satellites from April 10-18, 2010. The crew use a FT-897 transceiver with homebrewed "Easysat" antenna for 2m and 70cm and a homebrewed 10m cross dipole for AO-7 Mode A.

The team plans to use AO-07*, AO-51*, HO-68*, SO-50, and SO-67. (*first priority on passes when the satellite team is available.) AO-07 will be activated in SBB/CW-mode and ll other satellites will be in FM-mode.

The main areas in the footprint are: East-Asia, Japan, China, India, Australia and east part of Russia. If possible, the 3W6C-Team will use some DX-Windows to near East and west part of Russia.

The main-operator for Satellite will be Hans-Peter, HB9BXE. The satellite station will be operating in manual mode without automatic doppler correction or tracking. On AO-7 expect him to search the his downlink frequency +/- 5KHz to establish contacts. If there is a pileup on the satellites please transmit only your callsign,

signal strength and gridsquare.

All DXpedition crew members are primary shortwave operators. So please be patient if they have some difficulty with satellite operation.

For additional information and operating-plan, please see the 3W6C Website: http://www.3w6c.qrv.ch.

[ANS thanks Michael, HB9WDF, Satellite Training Coach for the 3W6C DXpedition, for the above information]

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SB SAT @ AMSAT $ANS-073.04
FUNcube Pictures Released

AMSAT News Service Bulletin 073.04
>From AMSAT HQ SILVER SPRING, MD.
March 14, 2010
To All RADIO AMATEURS
BID: $ANS-073.04

AMSAT-UK has released images of the Command, Control & Telemetry (CCT) board being developed for the FUNcube Amateur Radio satellite.

FUNcube is the latest satellite project being developed by AMSAT-UK members. In addition to a telemetry beacon FUNcube will carry a 435 to 145 MHz linear transponder for SSB/CW operation. It will be the first time a satellite this small has carried such a transponder.

The CCT (Command, Control & Telemetry) Board is one of the circuit boards being designed and made by a number of members of the AMSAT-UK FUNcube development team. Its function is to control what the satel-lite does in realtime:

+ Automatically switch the satellite from 'education mode' to 'amateur mode'.

+ Gather readings from more than 30 sensors on the satellite, eg: temperatures, battery voltages, currents and encode them in a Forward Error Correcting format for downlinking via the beacon transmitter.

+ Collect and store the data from the Material Science Experiment for a whole orbit to demonstrate variations in thermal performance of material having different surface finishes in a vacuum and no gravity.

+ Monitor the main battery voltage, and switch the satellite into a low power mode if the battery voltage drops below a certain preset level.

The board will also contain the vital circuitry to deploy the 2 metre and 70 cms antennas after the satellite is deployed from the rocket. The board will communicate with the rest of the satellite via the I2C bus.

The pictures can be seen on the FUNcube site at http://www.FUNcube.org.uk/

FunCube frequencies for the inverting linear transponder are:
Uplink 435.080 ï¿½ 435.060 MHz

Downlink 145.960 ï¿½ 145.980 MHz
Beacon 145.955 MHz CW and BPSK

AMSAT-UK publishes a colour A4 newsletter, OSCAR News, that is full of Amateur Satellite information. Information to join AMSAT-UK can be found on-line at: https://secure.amsat.org.uk/subs_form/

[ANS thanks Trevor, M5AKA for the above information]

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SB SAT @ AMSAT $ANS-073.05
RSGB Response to OFCOM WRC-12 Consultation Includes Satellite Bands

AMSAT News Service Bulletin 073.05
>From AMSAT HQ SILVER SPRING, MD.
March 14, 2010
To All RADIO AMATEURS
BID: $ANS-073.05

Amateur Satellite Service frequency allocations vary worldwide depending on your location in the ITU Regions 1, 2, or 3. This means that some stations may not be able to operate on all of the satellites; and conversely, if all frequency allocations are taken into account the design of future satellites becomes limited.

In preparation for the World Radiocommunication Conference 2012 (WRC-12) the Radio Society of Great Britain (RSGB) has provided the the UK communications regulator OFCOM with a response covering concerns and planning for future satellite frequency allocation between 50 MHz to the microwave bands.

The RSGB response expressed concern about the use of high powered VHF Radar at 142-144MHz immediately adjacent to the weak signal section of the Amateur Primary 144-146MHz allocation. It says that the 53830-5850MHz Amateur Satellite Service downlink allocation should be protected from harmful out of band emissions from High Altitude Platform Stations (HAPS).

Amateur Satellite Service allocations at 50MHz and 3400MHz are identified as medium term objectives in the response of Radio Society of Great Britain (RSGB) to the WRC-12 consultation held by the UK communications regulator OFCOM:

These medium/long term objectives were identified:
+ Amateur allocation at 5 MHz with expanded allocations at 7, 10, 14, 18MHz.

+ A 50MHz Amateur Satellite Service allocation.

+ Allocation of 3400-3410MHz to the Amateur Satellite Service in ITU Region 1.

+ Allocations 10-50MHz wide at low atmospheric attenuation spots between amateur 10, 24 and 47GHz allocations.

+ Amateur and Amateur Satellite Services experimental access or formal allocations above 275GHz.

Read the RSGB WRC-12 response at
http://www.ofcom.org.uk/consult/condocs/wrc_12/responses1/RSGB.pdf

OFCOM World Radiocommunication Conference 2012 (WRC-12) Consultation
http://www.ofcom.org.uk/consult/condocs/wrc_12/

[ANS thanks Trevor, M5AKA for the above information]

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SB SAT @ AMSAT $ANS-073.06
Satellite Shorts From All Over

AMSAT News Service Bulletin 073.06
>From AMSAT HQ SILVER SPRING, MD.
March 14, 2010
To All RADIO AMATEURS
BID: $ANS-073.06

+ The K4T DXpedition to Dry Tortugas in the Gulf of Mexico wraps up operation on March 15. Satellite operating details have been posted at http://www.amsat.org

+ Listen for Paul, 2E1EUB operating as 2M1EUB from his holiday QTH in northeastern Scotland, about 50 miles west of Aberdeen in the Caringnorms National Park. He will be active on HF and satellites from this QTH starting March 20 for 7 days.

+ Contact Dave, G4DPZ (david.johnson AT blackpepper.co.uk) as soon as possible if you wish to submit a paper or presentation for the AMSAT-UK Colloquium 2010 which will be held at the Holiday Inn, Guildford, UK July 31 - August 1, 2010.

+ Adrian, AA5UK, will be on Oahu (BL11) and Kauai (BL02ic & BL01) from March 24th through April 7th o operating portable KH6. He plans to operate on the Linear and FM satellites during his stay, mostly from his rented house in BL02ic (March 27th through April 5th) and will try to operate portable/mobile from BL11 and BL01 time permitting. Emphasis will be SSB on FO-29, VU-52, AO-7 and HO-68. He will post daily availability via AMSAT BB, QRZ.com: http://www.qrz.com/db/aa5uk, and Twitter: @AA5UK. Sked requests are encouraged due to the limited pass windows for those operators needing HI for WAS at the fringe of the footprints. Please use the email listed on QRZ.com to arrange for a time and date.

+ Mark Hammond, N8MH will be hosting an AMSAT table at the RARSFest in Raleigh, NC on April 3. He would really appreciate some help. It's a nice hamfest, and the RARS club is always very hospitable to an AMSAT table and workers. See: http://rars.org/hamfest/ If you can commit to helping me on April 3, please contact Mark directly off-list via n8mh AT amsat dot org

+ AMSAT Store Manager, Bruce, KK5DO reported the book, "AO-51 Publication Development, Operation and Specifications" by G. Gould Smith, WA4SXM, is once again in stock at the AMSAT online store and ready for immediate shipment. Originally published in 2004, this publication was updated in 2005. It is 73 pages and is in color. Order yours today for only $20.00 plus shipping where applicable. See: http://www.amsat-na.com/store/item.php?id0165

+ In this YouTube video Marlin W3MAT shows the equipment he uses for communicating via the Amateur Radio satellites. The equipment comprises a dual-band hand held FM rig and an Elk dual band antenna. http://tinyurl.com/yzzhhry (SouthGate ARC)

+ Here's a nice video posted by KP4WK using a tape measure antenna

to work AO-51. "Satellite Fever KP4WK working AO51 with the tape measure antenna" http://www.youtube.com/watch?v=LBVT-3BwYI8

+ Patrick WD9EWK/VA7EWK posted video clips from his trip to Mexicali last year. One clip was from part of an SO-50 pass, and the other two were during a shallow AO-51 pass:
The SO-50 pass video can be seen at:
http://www.youtube.com/watch?v=qf_pJw9qthM
The two clips from the AO-51 pass are at:
http://www.youtube.com/watch?v=3WskH1spZIc
http://www.youtube.com/watch?v=qseb6JVNgvo
Demonstration from the Yuma hamfest on 20 February 2010
http://www.youtube.com/watch?v=gwyFsk9tFAc
Two videos were from an AO-51 pass I worked as XE2/WD9EWK from grid DM21jw in northern Baja California:
http://www.youtube.com/watch?v=JW5-hL3SDig
http://www.youtube.com/watch?v=2k2yAMGeALc

+ Bertrand Pinel, F5PL near Castelnaudary, France, used his 3.5m dish to listen to the signal from Mars Express during the Phobos Flyby. Details at: http://webservices.esa.int/blog/post/7/1058

+ The next Hudson Valley Satcom Net is Thursday 18 March at 8PM (EDT) (or 2400 UTC) on the 146.97 MBARC Repeater. The net is also carried on the N2EYH-L Echolink node. See: http://www.hvsatcom.org
Two area Hamfests in April:
Saturday April 10, the Orange Co. (NY) ARC Hamfest at the Wallkil Community Center(Near Middletown, NY) See: http://www.ocarc-ny.org
Sunday April 25 Mt. Beacon ARC or "Beaconfeste" at Tymor Pard. (In the Town of Unionvale, NY) See: http://www.wr2abb.org

[ANS thanks everyone for the above information]

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SB SAT @ AMSAT $ANS-073.07
GcmWin Software By SM3GSJ Global Grid Square Visualization Tool

AMSAT News Service Bulletin 073.07
>From AMSAT HQ SILVER SPRING, MD.
March 14, 2010
To All RADIO AMATEURS
BID: $ANS-073.07

John, K8YSE posted a map this week showing the map of the at least 86 different grids worked by Jim, ND9M during his recent 6 week road trip. John says the red grids are ones that he worked ND9M in and blue grids are the ones he missed. See: http://www.papays.com/nd9m.jpg

John wrote, "I've received several inquiries about the software that was used to create the ND9M/p road trip grid square plot. The program is a Great Circle Map generator with some very nice features created by SM3GSJ. KD8CAO originally discovered this program and posted info about it on the amsat-bb. It is called GcmWin."

Roger, SM3GSJ has added some functionality that makes it very suitable for those who chase grids. Originally, to plot grid square data, a 6 character grid designation was required. Roger changed it so that 4 character grids were acceptable.

In addition, only one set of grid square data could be overlayed on the map. He graciously changed the software so that two different colors from two different grid square files could be plotted. Now

you can show your confirmed grids in one color and your worked grids in another. The program has many other features related to propagation that might interest those who work HF.

The homepage for the software is: http://www.qsl.net/sm3gsj/

John is thinking about creating a webpage that could be used as a repository for posting these maps for anyone that is interested in having their plot on line. Let him know if you're interested. You can view his plot at: http://www.papays.com/k8ysegrids.jpg

In that plot John set the radius at 8200 miles which is a compromise between detail and the maximum distance that can be worked on AO-7. If you decrease the radius, more detail can be shown. You can include grid square numbers if you make the radius small enough. Red is confirmed and Blue is worked.

[ANS thanks John, K8YSE for the above information]

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SB SAT @ AMSAT $ANS-073.08
Update on Arecibo EME Activation

AMSAT News Service Bulletin 073.08
>From AMSAT HQ SILVER SPRING, MD.
March 14, 2010
To All RADIO AMATEURS
BID: $ANS-073.08

The planned activation of the Arecibo Dish on Amateur Radio Earth-Moon-Earth (EME) operation was initially mentioned in ANS-045. This article provides additional information to assist stations to prepare for the Echoes of Apollo EME 2010 or World Moon Bounce Day.

Echoes of Apollo EME 2010 or World Moon Bounce Day, is scheduled for the weekend of April 16, 17, and 18. This year, EOA has been graced with a special opportunity to use the Arecibo Dish as the ultimate "big gun" station on 432 MHz SSB & CW. Arecibo has more than 50 dBi gain on 432 MHz so the team thinks it can be heard with modest equipment. A large OSCAR-class antenna array equipped station with low-noise figure preamps may be able to receive the bounced signal.

Ed, KL7UW, wrote an analysis of minimum antenna requirements on the Moon-Net e-mail reflector. Ed said, "My preliminary EME path-link analysis indicates that you will need more than 60 watts at Arecibo for the small home-built antenna/receivers to be successful (especially for SSB). My guess is that a 7-10 element yagi (12-dBi gain) would require use of JT-65 for reception of a 60 watt transmitter at Arecibo. Therefore, obtaining a high power amplifier, 1 KW or greater for Arecibo is very important for successful SSB reception by small stations."

Echoes of Apollo EME event coordinator, Pat Barthelow, AA6EG predicts success by many small stations since he has confirmed the offer and availability of an SSPA producing approximately 600 watts at the output connector of the amplifier for EOA Arecibo use, custom manufactured for this event, and future EME events, by Lionel, F1JRD of Freescale Semiconductor (http://www.freescale.com). Many Many thanks, Lionel! An SSPA 48 volt, 20A power supply has also been donated for use in the event, and future EME events, THANKS to the generosity of Andrea, IK5QLO. Diligent effort on antenna gain, low-noise pre-

amplifiers for 432 MHz, high quality coax, and accurate aiming are
necessary for success.

Pat, and others, have posted links to antenna construction sites which
are within construction capabilities of many amateur radio operators.

Kent Britian's site with his wonderful homebrew yagi antenna designs
using simple materials: http://www.wa5vjb.com/yagi-pdf/cheapyagi.pdf
Look at Page 2, for the 432 Yagi.

DK7ZB 70cm-Long Yagis:
http://www.qsl.net/dk7zb/70cm-longyagi/details.htm

G0KSC High Performance Antennas:
http://www.g0ksc.co.uk (scroll down the side panels to 432MHz LFA Yagis)

Wayne Oberbeck, N6NB literally wrote the book, and landmark articles on
Quagis: http://commfaculty.fullerton.edu/woverbeck/quagi.htm

An operational transmit test will happen before the end of the month.
All operators are encouraged to listen during the test, with the ob-
jective of defining a minimum receive system antenna/preamp required
for reception of Arecibo SSB Signals. Take careful notes of your sta-
tion setup and the quality of received signals. Monitor the Echoes of
Apollo web page for the latest information:
http://echoesofapollo.com/2010/03/07/world-moon-bounce-2010/

Pat ended with, "Future EME events at Arecibo are being discussed,
and are anticipated. NASA has joined discussions to plan to inte-
grate EME as a recognized and appreciated activity useful in NASA
training and science outreach activities."

A video tour of Arecibo can be viewed at:
http://www.youtube.com/watch?v=vicxDnn6LEY
http://www.youtube.com/watch?v=7rFeXsVz8hE&NR=1

[ANS thanks Echoes of Apollo EME event coordinator, Pat Barthelow,
 AA6EG, and EME/Satellite Operator Ed, KL7UW for the above
 information]

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SB SAT @ AMSAT $ANS-073.09
First Reminder for 2010 AMSAT Field Day Competition

AMSAT News Service Bulletin 073.09
>From AMSAT HQ SILVER SPRING, MD.
March 14, 2010
To All RADIO AMATEURS
BID: $ANS-073.09

Field Day is coming again! Each year the American Radio Relay
League (ARRL) sponsors Field Day as an emergency preparedness
exercise. The event takes place during a 24-hour period on the
fourth weekend of June. The Radio Amateur Satellite Corporation
(AMSAT) promotes its own version of Field Day for operation via
the amateur satellites, held concurrently with the ARRL event.

If you are considering ONLY the FM voice satellites like AMSAT-
OSCAR 16, AMRAD-OSCAR-27, SaudiSat-Oscar-50, or AMSAT-OSCAR-51
for your AMSAT Field Day focus. Don't, unless you are simply
hoping to make one contact for the ARRL rules bonus points. The
congestion on FM LEO satellites was so intense in prior years

that we must continue to limit their use to one-QSO-per-FM-satellite. This includes the International Space Station. You will be allowed one QSO if the ISS is operating Voice. You will also be allowed one digital QSO with the ISS or any other digital, non-store-and-forward, packet satellite (if operational).

The format for the message exchange on the ISS or other digital packet satellite is an unproto packet to the other station (3-way exchange required) with all the same information as normally exchanged for ARRL Field Day,
e.g.:
W6NWG de KK5DO 2A STX
KK5DO de W6NWG QSL 5A SDG
W6NWG de KK5DO QSL

If you have worked the satellites on Field Day in recent years, you may have noticed a lot of good contacts can be made on some of the less-populated, low-earth-orbit satellites like Fuji-OSCAR 29 (may or may not be operational), AMSAT-OSCAR 7. During Field Day the transponders come alive like 20 meters on a weekend. The good news is that the transponders on these satellites will support multiple simultaneous contacts. The bad news is that you can't use FM, just low duty-cycle modes like SSB and CW.

2010 AMSAT Field Day Rules are in the process of being posted on the amsat web pages in the near future. Watch for an announcement when the document (.doc and .pdf) is available.

[ANS thanks AMSAT Director Contests and Awards, Bruce KK5DO for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office. And with that, please consider the note left for a pianist from his wife: Gone Chopin, have Liszt, Bach in a Minuet.

73,
This week's ANS Editor,
JoAnne Maenpaa, K9JKM